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ABSTRACT

As funding for special education increases, it becomes important for educational policy-makers to understand the effects caused by the distribution of monies. This paper focuses on key programmatic and management issues in the funding of special education. Four main topics are discussed: (1) the relationship between special education programs and costs, (2) primary funding formulas used for special education, (3) policy issues affected by the funding formulas, and (4) motivational effects of the various funding formulas. Also examined are the effects of the funding approach used by P.L. 94-142 (Education for All Handicapped Children Act) to allocate federal funds. (Author/LD)

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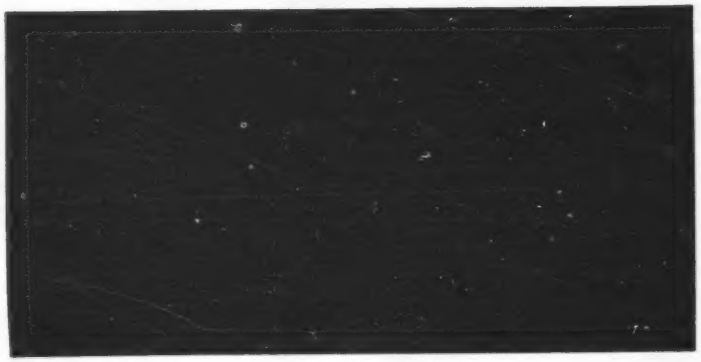

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POLICY EFFECTS OF SPECIAL EDUCATION FUNDING FORMULAS

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POLICY EFFECTS OF SPECIAL EDUCATION
FUNDING FORMULAS

Abstract

P.L. 94-142 and similar legislation in almost every state now require all handicapped children to be provided a free appropriate education. To accomplish this objective, estimates indicate that large scale growth in the available funds for special education will be necessary. As the funding for special education increases, it becomes even more important for federal, state, and local educational policymakers to understand the effects and motivations caused by the magnitude and distribution of these monies.

Special education funding formulas have been categorized into six types (unit, personnel, weight, straight sum, percentage reimbursement, and excess costs) and by the main factor used for the allocation of funds (resources, children served, and cost). Each of these formulas has the same fiscal objective--to transfer monies for special education from the federal or state level to school districts. Further, with comparable regulations, guidelines, and constraints, each of the formulas can be made to yield the same amount of money. Consequently, this analysis of the funding formulas examines how each of the various formulas affects important special education policies and decisions. Each of the funding formulas provides certain incentives and disincentives for local, state, and federal personnel to make certain educational choices concerning handicapped children. Therefore, to evaluate the different formulas, this paper investigates the motivational effects of the formulas on key programmatic and management issues in special education. As an additional example, the impact of the funding approach utilized by P.L. 94-142 to allocate federal special education funds is reviewed according to these same issues.

I. INTRODUCTION

Special education has relatively recently become an issue of national concern and prominence. The passage of The Education for All Handicapped Children Act, P.L. 94-142, in 1975 culminated over a decade of intensive legal and political activities to establish the educational rights of physically, mentally, and emotionally handicapped children. P.L. 94-142 and similar legislation in almost every state now require all handicapped children to be provided a free appropriate education. To accomplish this objective, estimates indicate that large scale growth in the available funds for special education will be necessary. As the funding provided for special education increases, it becomes even more important for federal, state, and local educational policymakers to understand the effects and motivations caused by the magnitude and distribution patterns of these monies.

To assist these efforts, this paper focuses the programmatic and management considerations of the principal special education funding approaches. Four main topics are discussed: 1) relationships between special education programs and their costs; 2) primary funding formulas used for special education; 3) policy issues affected by the funding formulas; and 4) the potential incentives and disincentives of the various funding formulas. Finally, as an example, the effects of the funding approach utilized by P.L. 94-142 to allocate federal funds are examined.

II. RELATIONSHIPS BETWEEN SPECIAL EDUCATION PROGRAMS AND COSTS

Special education costs are rooted in the basic aspects of programs to educate handicapped children. In other words, programmatic decisions--choices relating to students served and the programs and services provided to them--determine special education costs.[1] Greater understanding of the basis for the costs of special education can lead to more rational, effective, and efficient funding policies and decisions.

It is widely recognized that the costs of educating handicapped children are greater than the costs of educating nonhandicapped children; indeed, this is the very reason for categorical special education funding. However, behind this generalization are specific programmatic causes for the increased costs. To illustrate the relationships between special education programs and their costs, it is useful to begin with a brief review of the major reasons for the greater costs of educating handicapped children.

Additional and related special education services. The majority of handicapped children receive special education programs and services in addition to being enrolled in a regular education program. As a result, the total cost of their education includes both the cost of the regular program and the cost of the special education programs and services. Examples of special education instructional programs include speech and language instruction, itinerant specialists for visually or hearing handicapped children, consulting teachers to aid handicapped students in regular programs and their regular classroom teachers, resource rooms providing part-time assistance to mildly handicapped children, and specialized instructional materials and/or equipment, mobility training for

visually handicapped children, interpreters for hearing handicapped students, and special transportation services.[2]

Special classes. Many moderately handicapped children are served primarily in separate, self-contained special classes. These classes typically have much smaller student/teacher ratios than do the regular classes, frequently half the number of students and sometimes as low as two or four per teacher. Since the bulk of the classroom costs (i.e., teacher salary and benefits, operation and maintenance expenses) do not vary with the number of students in the classroom, the reduced number of students in special classes greatly increases the cost per student in this type of program.

Multiple special education services. Certain handicapped children because of the nature of their disability, require several special education programs and services to obtain an appropriate education. An example would be moderately handicapped children in special classes who also are provided with speech instruction and specialized vocational training. The cost of their education would reflect their multiple services.

Residential programs. The most costly special education programs are the public and private residential schools and institutions for the severely handicapped children. Not only are educational services needed for these children, but a complete set of housing, feeding, self-help skill training, vocational, and recreational services may also be required. It is not uncommon for the annual cost per student in these programs to reach $25,000.

Identification, assessment, and educational planning. For handi-

capped children to be provided with an appropriate education it is necessary that they be identified, their educational needs assessed, and an educational program be planned for them. This is an individual process for each handicapped child, involving professional evaluation and a multi-person staff conference (which may include the child's parents) to establish an appropriate educational program. This can be a lengthy and expensive step not required for nonhandicapped children.

Newly mandated procedures. Recent federal legislation and regulations require school districts to establish new and additional procedures involving handicapped children. Primary among these are the institution of a systematic process to locate all unidentified or inappropriately served handicapped children, the development of an individual educational program for each handicapped child, the establishment of due process procedures for handicapped children and their parents, and the fulfillment of local planning, recordkeeping, and reporting requirements to meet federal regulations and to qualify for federal funds. While they may be necessary to insure the educational rights of handicapped children, these procedures also involve additional costs not required for nonhandicapped children.

Additional staff support and training. Specialized staff are also required to provide direct and indirect assistance to handicapped children, their parents, their teachers, and to other students and school personnel. Examples of such staff include school psychologists, school social workers, parent trainers, and specialized counselors. Inservice training for school personnel, particularly principals and regular classroom teachers who have handicapped children in their classes, is a necessary step for

for successful acceptance of handicapped children and implementation of the least restrictive environment concept.

Greater age span. P.L. 94-142 and similar state legislation mandate special education programs and services for handicapped children ages three to twenty-one, a larger age range than regular education. Programs for preschool and postschool age handicapped children can be very costly--concentrating large numbers of resources on a relatively small number of more severely handicapped students--although they may be very cost-effective in the long run.

The causes of greater costs for special education are based in the greater educational needs and requirements of handicapped children. Consequently, in considering special education funding decisions, it is necessary to recognize and account for the close relationships between programmatic decisions and financial implications.

III. SPECIAL EDUCATION FUNDING FORMULAS

It is important to note at the outset of this discussion that any funding formula for special education is simply a mechanism for transferring dollars earmarked for educating handicapped students from one governmental level to another (i.e., state or federal to school district). The amount of money transferred is not an inherent characteristic of the formula itself, but rather is a product of all of the educational and policy decisions that surround the formula. As stated by a recent study of special education finance,

> A funding formula encompasses the mandated procedures, prorating provisions, administrative guidelines, and exceptions or exclusions that determine and regulate the alloca-

> tion of state [and federal] funds to districts. The actual impact of a particular procedure cannot be determined without reference to all the other factors--legal, political, social, educational--that interact with its actual operation.[3]

The study also points out that, given the same assumptions for a special education program, the funding levels would be identical under any formula.[4] Therefore, the choice of a formula becomes important for the incentives and disincentives it may create for school districts in providing adequate and appropriate programs and services for handicapped children, not for the amount of money it will generate (from the district perspective) or obligate (from the state or federal perspective). Further, to improve the general understanding of special education finance and to remove some of the complexity that often surrounds this issue, the formula should also, to the extent possible, have a clear and demonstrable relationship to the special education programs and services which are being funded.

Funding Formula Definitions

Six types of funding formulas for special education in common use have been identified.[5] While this categorization is useful for comparative and analytical purposes, in actual practice the formulas are not necessarily mutually exclusive. Many state special education funding systems have modified a given formula, combined various portions of different formulas, and even utilized different formulas for different programs within a single state. The six formulas are:

Unit. A fixed amount of money is provided for each qualified unit of instruction, administration, and transportation. The funding is for the costs of resources necessary to operate the unit (e.g., teacher salary and other operating expenses), and the amounts may vary by type of unit.

Personnel. Funding is provided for all or a portion of the salaries of personnel who work with handicapped children. No other costs are reimbursed under this formula. It is essentially a special case of the unit formula approach, limited to personnel costs.

Weight. An amount of money is provided for each handicapped child equal to the regular per pupil reimbursement times a factor or weight which typically varies by type of handicap. The net result is a per pupil funding amount.

Straight Sum. A fixed amount of money is provided for each handicapped child. The amount may vary by type of handicap.

Percentage. A percentage of approved costs of educating handicapped children is provided. This approach is often combined with others, as in funding 75% of certified special education teacher salaries.

Excess cost. The additional costs of educating handicapped children are reimbursed in full or part.

These six types of funding formulas can be group according to the main factor used for allocation of funds--resources, children served, or cost. In these groupings, one of the factors serves as the basis for the special education funding formula, while the other two factors are used to regulate the amounts and uses of the funds generated under the formula.[6]

1. Resource based formulas

   a. Unit

   b. Personnel

   Formulas are based on the payment for resources (teachers, aides, equipment, etc.) with regulations on the costs of resources that are allowable and on the resource use per student served.

2. Child based formulas

   a. Weight

   b. Straight sum

   Formulas are based on the number and type of children served with regulations on the cost and use of resources.

3. Cost based formulas

   a. Percentage

   b. Excess cost

   Formulas are based on costs with regulations on the children served and use of resources.

IV. POLICY CONSIDERATIONS OF FUNDING FORMULAS

Each of the funding formulas, although different in format, has the same fiscal objective--to transfer monies for special education from the federal or state level to school districts. Further, with comparable regulations, guidelines, and constraints, each of the formulas can be made to yield the same amount of money. Consequently, any analysis concerning the appropriateness of special education funding formulas must examine how the different formulas may affect special education policies and decisions. In effect, the policy considerations impacted by the special education funding formulas serve as the criteria for evaluation. As a guide to this suggested analysis, the more important programmatic and management issues which may be affected by the choice of a special education funding formula are discussed below.

Classification of handicapped children. Eligibility for special education programs and services is generally predicted upon an assessment of a child's educational needs which often includes a handicapping designation.

However, a potential for abuse exists--overclassification--in which excessive numbers of students are classified as handicapped in order to increase the special education funding allottment. Ideally, the funding formula should be neutral with the classification decision based on the characteristics of the child.

Choice of appropriate program. Similar to the classification issue, the placement decisions for handicapped students should be based upon a matching of their diagnosed learning needs and the available educational programs and services (considering not only special education, but regular education, vocational education, and support services as well). The funding formula should not exert a dominant influence over the choice of the educational program(s) selected for handicapped children. Two possible problems in this area are: higher reimbursement placement--selection of the placement option with a greater reimbursement amount when a less restrictive, lower reimbursement option would be equally or more appropriate; and lower cost placement--selection of the placement option representing a lower cost to the school district when another, higher cost, option would be more appropriate.

The higher reimbursement and lower cost placement problems are essentially two sides of the same coin; the important aspect is the difference between the reimbursement amount received by the district (via the funding formula) and the cost to the district of a particular program or student. There will be more of a tendency to place handicapped children in those programs in which the funding amounts are greatest relative to the programs' costs and to minimize those placements in which the reverse is true. As a result, the motivations caused by the funding

formulas generally depend upon the specific dollar amounts associated with the formulas and the districts' costs. This allows a significant opportunity to use the funding formulas as a policy tool to encourage desired placements of handicapped children.

Modification or change of educational program. As handicapped children grow and develop, it may be educationally appropriate to change the type of program in which they are placed. The funding formula should not inhibit such placement changes. However, if the change represents a shift from a higher reimbursement situation to a lower one or a lower cost to a higher one, there may be financial incentive to resist the change.

Class size or caseload. The number of students per instructional unit (e.g., student/teacher ratio in special classes or the caseload of a speech instructor) is a key variable in determining the costs of special education[7] and one that can be controlled or strongly influenced by local school officials. Up to a point, maximizing class sizes is desirable as it makes the most efficient use of special education resources. However, there are two problems that can occur in this area which are motivated by the funding formulas: overloading the number of students per unit (beyond good educational practice) in order to maximize the reimbursement amounts while minimizing the costs through a reduced number of units; and minimizing the number of students per unit in order to maximize the reimbursement amounts.

Labeling of handicapped children. There exists a continuing controversy in special education over the use of categorical labels for handicapped children.[8] On one hand, labels (e.g., mentally retarded, emotionally disturbed) are deplored for their negative and stigmatizing effects on

the children so labeled, while on the other hand, some organizing scheme is generally thought necessary for identifying, earmarking funds for, and providing services to handicapped children. While the choice of a funding formula cannot resolve this fundamental dilemma, any funding formula which requires a child to be labeled as handicapped in order to qualify for funding acts as a very powerful force for the continuation of labeling.

One means of breaking the linkage between funding and the necessity to categorize or label children that has been established is to base the funding on the special education programs or services that are provided.[9] Students still need to be identified, assessed, and, in some fashion, certified as needing special education services, but this process is for eligibility for services, not directly for funding.

Support for costs of mainstreaming. The emphasis on the least restrictive environment for educating handicapped children in P.L. 94-142 and state statutes means that many handicapped children will be provided with their special education programs and services in the context of the regular classroom. This is particularly true for mildly handicapped children, which comprise the majority of the special education population. To support and encourage this development, a funding formula must be able to provide adequate funds for the mainstreaming type of programs.

Ability of small districts to provide programs. The choice of a funding formula can have a definite impact on the minimum district size necessary to maintain an adequate and efficient special education program. It may be desirable to use the funding system to encourage multi-district cooperation among smaller districts to generate sufficient students and funding to be able to provide the appropriate range of special education programs

and services in an educationally and cost efficient manner.

Recordkeeping and reporting requirements. In order to provide information and accountability for special education, various pupil, personnel, and accounting records are maintained and reports prepared. The choice of a funding formula affects both the type and detail of the necessary records and reports, with the critical data elements required for each formula related to the particular funding basis.

Program and fiscal planning. An important administrative task is that of planning for the provision of sufficient and appropriate special education programs and services for handicapped children and developing the necessary budgets for financing them. To be helpful in this area, the funding formula should assist in this process by providing a straightforward and logical connection between the needed programs and their funding.

Control of costs. Can a particular funding formula help control special education costs? As stated earlier, the funding formula is basically a mechanism for transferring monies from one governmental level to another. Limitations on expenditures or funding amounts are generally dealt with through regulations and guidelines directing the use of a formula, while the total amount of funding available at the state and federal levels are political decisions. However, if districts are required to spend some of their own money on programs they may tend to be more concerned with costs and efficiency than if the funding comes from other sources.

Obtaining state and federal priorities. The funding formula can be used to help state and federal education agencies provide leadership to districts and to provide incentive and direction in fulfilling statutory

mandates. Money is a powerful motivation. It gives districts the ability to provide programs and services to handicapped children. Which programs are favored, what support services are available, what ancillary efforts are made, all can be strongly influenced by careful selection of different funding levels for different programs (or the same funding level for programs costing different amounts), earmarking certain funds for specific activities, and establishing service and funding priorities. It is a truism that districts view state and federal funding with their own interests in mind. The challenge is to design the specific funding system such that the local interests coincide with the state or federal priorities.

Tracking special education funds. Does the funding formula make it possible to trace the reimbursement amounts provided to a district to the actual expenditures for special education? Two important benefits result if this linkage is possible in a clear and direct manner: 1) it permits a matching of district revenues and costs for resource allocation decisions and supporting analytical investigations; and 2) monitoring the proper use of funds is simplified.

Incorporation of future changes. A final policy consideration is that of updating the funding amounts associated with the formula to account for future changes. Price levels, the mix of programs provided, the manner in which various resources are combined in programs, and the programmatic priorities, regulations and guidelines all change over time. How easy is it to update the funding amounts to reflect these changes? Are the changes understandable and logical to follow? In some instances, the funding amounts may be determined and changed in a somewhat arbitrary manner and not be explicitly related to the cost of special education

programs (e.g., the P.L. 94-142 funding authorizations which are based on an increasing percentage of the national average per pupil cost of nonhandicapped students). However, to the extent that the funding formula is related to special education costs, changes in costs need to be matched with changes in the funding amounts.

V. INCENTIVES AND DISINCENTIVES OF FUNDING FORMULAS[10]

Each of the funding formulas provides certain incentives and disincentives for local, state, and federal personnel to make various educational decisions concerning handicapped children. None of the funding formulas is a perfect answer; each involves compromises among important but possibly conflicting programmatic and management issues. Therefore, in evaluating a given funding formula for special education or in choosing among alternative formulas, the analysis of the motivational effects is critical.

Resource Based Formulas

The resource based formulas (unit and personnel) offer a reduced incentive for overclassification; more students classified as handicapped can yield more units or personnel, but as the incremental number of students needed for a new unit may be 10, 20, 50, or even greater (depending on the student/teacher ratios associated with the units), the linkage is less direct than in child based formulas where each additional handicapped student results in additional funds. In choice of programs, the personnel reimbursement formula favors placements in those programs with greater use of personnel and discourages nonpersonnel services and those programs which substitute other resources for reimbursed personnel.

The resource based formulas provide a less direct incentive for resistance to changes in student placements due to the greater number

of students required to cause a change in either the number of units or number of personnel which are reimbursed.

The resource based formulas can encourage maximization of class size as a cost reduction measure; however, if the units or personnel are fully or largely funded by the reimbursement formula, there can be an incentive to reduce the class size and caseloads in special education (to provide better service for the handicapped children, to reduce the teachers' workloads, to increase the size of the total special education program), at no or little cost to the district.

The resource based formulas do not require labeling a child as handicapped as a condition of funding. The determination of a disability or handicap is generally dealt with through eligibility standards, while the funding is based on the units of service or number and type of personnel.

Historically, it has been reported that the unit and personnel formulas discouraged mainstreaming placements by basing eligibility for reimbursement, as well as the reimbursement amounts, on a unit or teacher of a special class.[11] This is a failure of the associated regulations rather than of the formulas themselves; these approaches can be used to support the costs of mainstream programs and personnel by defining eligible mainstreaming units or types of personnel.

Under the resource based formulas, a minimum number of special education students qualifies a district to receive the full unit or personnel funding. The standards are generally established in state regulations of minimum and maximum class sizes or caseloads (e.g., nine to thirteen for a special class, forty-five to eighty for a speech therapist). Thus, with a minimum number of students a district can receive funds for and provide a given

special education program. However, districts with too few students to meet the minimums would receive no funds and would have to develop a cooperative arrangement with other districts to serve their handicapped students.

The resource based formulas require information on the instructional units and personnel to be funded. Much of this information is generally provided by the normal school pupil, personnel, and cost records. Necessary reports are developed from these data which imposes a minimum additional administrative burden on the districts.

Program and fiscal planning can be aided by the resource based formulas, particularly the unit formula. The planning sequence begins with the handicapped children to be served, moves to the determination of the type of appropriate programs and the number of units of each, and then automatically provides the total funding amount through the unit funding amounts and quantities of the various units. The personnel formula is similar to this sequence, but it does not include other costs which are required and may result in a bias toward greater use of personnel in planning programs.

The resource based formulas provide a relatively straightforward tracking of the use of special education funds as there is a direct correspondence with the funds provided for various instructional units or personnel and the expenditures for the resources used in those programs. Finally, any programmatic or price changes from year to year are readily identifiable as the reasons for changes in funding amounts for the resource based formulas. For the unit and personnel formulas such changes can be included in the specification of the standard composition of the instructional units on an annual basis.

Cost Based Formulas

The formulas most likely to encourage overclassification would be the child based ones (weight, straight sum), where the reimbursement amount depends directly upon the number of handicapped children; more children identified as handicapped means more special education funding. If the weights or dollar amounts are different by type of handicap, the incentive is to classify more students into the categories with the higher reimbursements. Also, the straight sum formula, when used as a single average reimbursement amount for all handicapped children, provides a financial incentive to locate and serve an increased number of mildly handicapped children (generally served in low-cost programs) and to minimize the number of more severely handicapped students (who require more expensive services), although theoretically, the "profit" on the students in the low cost programs should be used to balance the "loss" on students in the expensive programs. Potential classification abuses can be controlled by regulations establishing limitations on the proportion of students classified as handicapped, either in total and/or by category. On the other hand, child based formulas provide the greatest incentive to include an unserved population in special education programs (a premise behind P.L. 94-142).

If there are different weights or dollar amounts by type of program (instead of handicapping category), there can be a financial incentive to replace children in the higher reimbursement programs or, if the reimbursements do not cover the program costs, to place children in programs with the lowest net cost to the district. However, differential per child funding amounts by type of program can serve as a positive incentive to

achieve educational programming objectives or priorities (e.g., relatively greater amounts for less restrictive settings to encourage these placements). Similarly, the greatest incentive for maintenance of children in higher reimbursement programs is provided by the child based formulas--the extreme case being when a child is returned to regular education and no longer provided with special education services or classified as handicapped and the weight or straight sum based special education reimbursement would be eliminated. (Presumably there are associated special education costs which are also eliminated, but these would be the marginal costs and would most likely be less than the average reimbursement amounts that would be lost.) Additionally, if no provision is made for adjusting the funding procedures for the length of time a child receives special education services, the child based formulas can offer a reverse incentive to enroll and remove children from programs too quickly. For example, if every child enrolled in a speech and language instruction program (usually a relatively short-term duration placement, frequently less than one year for many students) qualifies for a full reimbursement amount regardless of the duration of the service, there can be a strong incentive to move as many children as possible through the program during the year to maximize the funding received.

The child based formulas, by themselves, offer strong incentives for both maximizing class sizes and for labeling children as handicapped. The weight and straight sum formulas which base their reimbursements on the number (and possibly type) of handicapped children are prime examples of the powerful influence of money on program practices. In a like manner, the child based formulas provide more revenues for a given cost when the special education class sizes and caseloads are increased.

Child based formulas can certainly provide fiscal support for the costs of mainstreaming. The weighted and straight sum amounts are based on a child being placed in an approved special education program. Additionally, if the funding amounts are differentiated, particularly by type of program, there can be a closer match between the costs of the mainstreaming programs and the support received for these programs.

With the child based formulas a minimum number of students would probably not generate sufficient funding to provide a complete program since the per pupil funding amounts, when related to program costs, are generally based on average or maximum class size or caseload. Thus, the smaller districts could be financially restricted from providing special education programs. On the other hand, the child based formulas do provide some funding to districts regardless of the number of students, where the unit and personnel formulas provide no funding below a minimum student level. However, it is questionable if, under the child based formulas, the funding amounts received by small districts can be used effectively to provide an appropriate education for the few handicapped children involved. It may be more feasible to discourage the fragmentation of special education services and, instead, use the funding system to support cooperative arrangements among smaller districts in order to provide adequate and efficient programs.

The child based formulas require accurate and reliable information on the number of children served in special education (and possibly the type of handicap and/or type of program as well). This need forms the basis for the federally mandated annual child count to determine the number of handicapped children eligible for funding under P.L. 94-142. However, in

some instances this one time, one day count is not felt to provide sufficient information for state funding allocations. Florida has installed a detailed, individual pupil, time accounting system to keep track of the time handicapped students spend in various educational programs.[12] This allows the funding system to calculate the state reimbursement amounts to districts based on actual time spent in programs. For example, the time a mildly handicapped child assigned to a regular classroom spends in a special education resource room program, perhaps an hour each day, is credited toward the resource room reimbursement, but deducted from the regular education aid. While this prevents the appearance of double counting of pupil time, it is doubtful that the time the mildly handicapped student in the example is out of the regular classroom represents any real cost savings to regular education. Further, to maintain such a detailed time accounting system is both expensive and time-consuming.

Planning under the child-based formulas appears less straightforward than under resource or cost based approaches, although not unnecessarily difficult. Further, there may be a tendency to base programs on available dollars instead of student needs. The end result is the same as under the unit approach, but the process is not as direct.

In child based formulas which use a per pupil reimbursement amount, it is not possible to follow the funding for a particular handicapped child to the expenditures specifically for that child, although this level of detail is generally unnecessary. The tracking must be done on an aggregated basis--all the funding for children of a certain type or in a certain program compared with the expenditures for those children or program (which

may not be recorded in this fashion by the accounting system). Similarly, it is more difficult to document and explain funding amount changes with a child based formula. Changes in the average per pupil cost of mentally retarded children, for example, are the results of concurrent changes in the proportion of children served in various special education programs with different costs, the personnel salaries, student/teacher ratios, use of instructional aides, etc. The analysis and explanation of the child based funding amounts must essentially revert to a unit basis and then be recast in cost per pupil amounts. The alternative is an arbitrary funding decision, which is much simpler but also less accurate and more prone to both over and underfunding results.

Cost Based Formulas

The cost based formulas (percentage and excess cost) offer the least incentive for overclassification, since the percentage formula requires the school district to pay a portion of the increased costs, while the excess cost formula is theoretically fiscally neutral if all additional costs are reimbursed. If the district share of the costs are significant under the cost based formulas, there will be an incentive to place handicapped students in lower cost programs initially, to resist changes from low cost to higher cost programs, and encourage changes from high cost to lower cost programs. Again, if the excess costs are fully funded, there should be no fiscal influence on the placement decisions.

Like the other formulas, the percentage cost formula encourages maximum class sizes as a means of reducing the district's share of the costs. The excess cost formula when fully reimbursed theoretically eliminates this incentive.

The necessity to label children as handicapped in order to receive funding is not an inherent part of cost based formulas. The funding can be based on reimbursement of approved program costs (either percentage or excess) and not involve categorization of students as a funding requirement.

Similarly, the percentage and excess cost formulas can be used to provide funds for mainstreaming programs by specifying as approved (and reimbursable) costs those expenditures related to mainstreaming activities.

The effects of the cost based formulas on the ability of small districts to provide special education programs depend largely upon the associated regulations governing minimum class sizes and types of approved costs. There is little in the formulas themselves that either encourage or hinder small district special education programs.

The cost based formulas require detailed cost accounting records and cost reports. Since it is the expenditures themselves that are being reimbursed, these are the data which require the greatest attention. In particular, with an excess cost approach the accounting system must first define what excess costs are and then be capable of identifying and recording them in actual practice. At the district level, this generally involves maintaining cost records in greater detail, as well as submitting specific expenditure reports for reimbursement. At higher levels, this would involve review and approval of individual district spending reports. While providing more centralized control (a subject of significant political controversy), such a system would place an enormous administrative burden on the funding agency, which would be required to review, negotiate and approve individual district budgets and audit actual expenditures.

The planning sequence for the cost based formulas is similar to the unit approach up through the determination of the needed special education programs and units of each. Then it is necessary to specify the costs of each program which will be reimbursed under either the percentage or excess formulas. Summing the individual program reimbursement amounts gives the total special education reimbursement.

The role of the funding formula in cost control is most obvious in the percentage reimbursement formula where districts have an incentive to hold down costs if some of their own funds are involved. It can also operate in the excess cost formula through the definitions and specified levels of reimbursable costs.

For tracking the use of special education funds, the cost based formulas have the most direct connection since the reimbursement amounts are for actual or standard expenditures. These formulas also take future cost changes into account as a matter of course if they fund on the basis of actual costs incurred. In practice, however, regulations frequently specify maximum reimbursement amounts to control costs and limit the state or federal financial obligation.

To help compare the effects of each special education funding formula, the principal incentives and disincentives of each formula have been summarized in Table I.

VI. IMPLICATIONS OF THE FEDERAL SPECIAL EDUCATION FUNDING APPROACH

Under P.L. 94-142 the federal government made a major commitment, not only to guarantee the educational rights of handicapped children, but also to support an increasing proportion of the costs involved in meeting this commitment. For the first two years the appropriation by Congress matched

TABLE I

SUMMARY OF INCENTIVES AND DISINCENTIVES OF SPECIAL EDUCATION FUNDING FORMULAS

Program and Management Issues	Type of Funding Formula		
	Resource Based	Child Based	Cost Based
Classification of handicapped children	Less direct incentive for overclassification Straight sum encourages more mildly and fewer severely handicapped children	Encourage more children to be served, may lead to overclassification.	Least effect on overclassification
Choice of appropriate program	Personnel formula may bias toward greater use of personnel	Encourage placement in higher reimbursement or lower cost programs	Depends upon district share of costs
Change of educational program	Less direct incentive for keeping children in special education	Encourage keeping children in special education and in higher reimbursement programs	Depends upon district share of costs
Class size or caseload	Encourages maximum class size to reduce costs Full funding can encourage minimum class sizes	Encourage maximum class size	Encourages maximum class size (except fully funded excess costs)
Labeling of handicapped children	Labeling not needed by funding formula Can fund for program and personnel units	Formula generally requires labeling in order to qualify for funding	Labeling not needed by funding formula
Support of mainstreaming costs	Must include mainstreaming units or personnel as acceptable for funding	Funding provided for children in mainstreaming programs	Reimburse approved costs of mainstreaming programs
Ability of small districts to provide programs	Full funding amount with minimum number of students, but no funding below this level	Inadequate funding with minimum number of students, but some funding below this level	Governed by regulations, not the funding formula

TABLE I
(continued)

SUMMARY OF INCENTIVES AND DISINCENTIVES OF SPECIAL EDUCATION FUNDING FORMULAS

Program and Management Issues	Type of Funding Formula		
	Resource Based	Child Based	Cost Based
Record keeping and reporting requirements	Little information needed beyond normal pupil, personnel, and cost records and reports	Need accurate data on number of children, may require great detail to obtain time spent in different programs	Require detailed cost records, submission and approval of expenditure reports, and greater involvement and control by funding agency
Program and fiscal planning	Most fitted to planning sequence; based on student needs with funding an automatic calculation	Less direct process; tends to be based on available dollars, not educational needs	Fits planning sequence, but available dollars are an early planning factor
Control of costs	Done through regulation	Done through regulations	Percentage formula may help hold down costs through requiring district share
Obtaining state and federal priorities	Higher funding levels for certain program units or personnel can encourage these programs	Differential funding amounts can encourage service to certain students	Priority on higher funding for certain items/programs can encourage these programs
Tracking special education funds	Simple to track funding to expenditures	Not as possible to trace individual child funding and expenditures, must be done on an aggregate basis	Most direct connections between funding and expenditures
Incorporation of future changes	Updating funding amounts is straightforward, changes apparent	Updating of funding amounts more difficult to explain; may become arbitrary	Updating of funding amounts tied to cost changes

the law's authorization levels, $254 million in 1978 and $563 million in 1979. However, in 1980 the appropriation represented only two-thirds of the allowable authorization ($804 million out of a possible $1.2 billion), and the present indications for 1981 are for only a slight rise in the requested appropriation (a seven percent increase over 1980 to $862 million out of an authorization of $2.103 billion or 41% of the possible amount).[13]

Although current expenditure data are difficult to obtain, reports for 1976 indicate that the federal share of the total costs of special education were in the nine to fourteen percent range.[14] Even with the increases in federal support since that time (which have been matched in part by state and local increases), it is unlikely that the current federal share exceeds fifteen percent of the total costs of special education. From the states' perspective, this puts the federal government in the position of dictating many of the rules of special education under the authority of P.L. 94-142, but paying only a minor (and less than promised) portion of the costs. From the federal perspective, P.L. 94-142 can be viewed as civil rights legislation which reinforces the states' own statutes and which needs to be carried out regardless of the actual level of federal funding.

However, the federal dollars can be important ones, and how to maximize their impact is a critical issue for federal policymakers. To evaluate this issue it may be useful to consider whether the impact of federal funds for special education can be enhanced by the funding approach and/or by changes in the regulations which govern the distribution of funds. Will the likelihood of such priorities as an appropriate education for all handi-

capped children, individual educational programs, least restrictive environment, due process procedures, and provision of necessary related services be increased by federal funding practices?

The provisions of P.L. 94-142 specify that a straight sum funding formula be used to transfer federal funds for special education to the districts and states. For each eligible handicapped child, the states receive a set amount; there are no differences in funding due to either type of handicap or special education program provided. For fiscal year 1978 the funding amount was $74 per handicapped child.[15] The appropriations for fiscal years 1980 and 1981 yield per pupil amounts in the $200-$250 range.

What are the likely implementation effects of the federal funding approach? A top federal priority was that of serving all handicapped children, and it was believed that there were large numbers of unidentified and underserved handicapped children in need of special education. The use of a child based formula encouraged districts to include more students in special education programs since more students meant more federal funds. There is a limitation on the proportion of students which qualify for P.L. 94-142 funds (12% of the school age population), but this remains more of a goal than a barrier, since in 1977-78 states reported serving from 5.2% to 11.5% of their school age population as handicapped.[16] In fact, until a state is at the maximum 12% of the population classified as handicapped, there is a financial incentive to keep children in special education in some fashion rather than returning them completely to regular education.

The federal straight sum formula, because it pays only a single fixed amount per child, also encourages districts to serve more mildly handicapped

children because they require less costly programs. In fact, for certain mildly handicapped students who need only a minimum of special education assistance, the federal funding amount could exceed or meet most of the costs of serving them. The federal priority of services to severely handicapped children (who require extensive programs) is not assisted by the funding formula; however, it is dealt with more directly in the regulations.

In a similar fashion, the federal straight sum funding formula encourages placement of students in lower cost programs to minimize the necessary local contribution, particularly with the low dollar amounts provided by the present federal funding level. However, as long as the procedures for individual educational programs and due process are functioning adequately and prevent placement abuses, a bias toward lower cost programs may not be harmful. In addition to aiding cost-efficiency, this practice would tend to be in line with the least restrictive environment priority since the lower cost programs and related services are generally the least restrictive. The federal funding formula also provides an incentive to maximize the class size or caseload for special education programs, but these tendencies are generally controlled through state regulations, as the federal regulations do not prescribe such detailed programmatic standards.

The federal funding approach utilizes the traditional medical/clinical definitions of handicapping conditions to define students' eligibility. By requiring the states to report the numbers of children by their disability categories in order to receive federal funds, the federal government maintains and strengthens the practice of labeling. In some instances, the federal reporting requirement is the primary reason that a state has used or installed a categorical identification system.[17]

The ability of small districts to provide special education programs is restricted by a regulatory provision which requires districts to be able to generate an entitlement of $7,500 under P.L. 94-142 or consolidate their application for federal funds with other districts in order to reach this minimum. To reach the $7,500 funding level, a district would have needed approximately 100 students in special education for fiscal year 1978 and approximately fifty students in fiscal year 1979. A district with a total K-12 enrollment of 1000 students should be able to qualify for the $7,500 minimum funding requirement.

Due largely to the necessity for current, uniform, and valid data on which to base the distribution of P.L. 94-142 funds, new procedures were instituted for counting and reporting the number of handicapped children served by states and districts. This involves a once a year enumeration of all handicapped children in special education programs; the number of children reported in this count is then used to calculate the P.L. 94-142 funding entitlement for the states.

There is an additional record keeping requirement specified by P.L. 94-142 which goes beyond the standard financial accounting procedures used by districts to keep track of the sources and uses of federal funds. The law specifies that P.L. 94-142 funds are to be used only for excess costs of special education. This entails a record keeping system at the district level to document that the district has met this requirement. However, since the determination of the excess cost requirement is made at the aggregate level for the district rather than at the individual child level,[18] such a calculation is feasible; although in actual practice the operational definition of excess costs may prove to be variable among districts.

The annual funding amounts of P.L. 94-142, both the total dollar appropriation and the amount per student, are not specifically related to the costs of special education. Rather, they represent a federal contribution to whatever the costs are. The authorized amounts vary from year to year, beginning at 5% of the average per pupil expenditure (non-handicapped) in public elementary and secondary schools in fiscal year 1978 and rising to 40% for fiscal year 1982 and each year thereafter. These authorization levels serve primarily to limit federal commitments to a program of uncertain future magnitude, rather than to match an estimate of the total costs of special education or implement a decision on the appropriate proportion of federal support. Such analysis and policy decisions, however, are independent of a particular funding formula for special education.

From the perspective of the funding agency, the straight sum formula is the least complicated to administer. Once the number of children have been reliably established (via the child count procedures), calculation of entitlements and distribution of funds is a straightforward process. There is no need for definition of standard types of programs, or personnel, nor for different weights or funding amounts for different types of handicapped children, nor for approval of specific cost items or district special education budgets, as would be necessary with other funding formulas. The use of a single per student funding amount does not provide for any funding level differences for factors which affect the cost of special education for different children (e.g., type of handicap, severity of handicap, type of special education program, type of district [urban, suburban, rural] region of the country, or salary or other price levels). It can be argued

that a "fair" allocation of federal funds would include adjustments for these and other factors which affect real cost of equal educational opportunities for handicapped children.[19] However, inclusion of any of these factors would complicate record keeping and reporting required of districts and states, as well as the federal administrative burden associated with the distribution of P.L. 94-142 funds. Therefore, in assessing the federal funding formula it is necessary to balance administrative ease and clarity at all governmental levels with considerations of how best to influence district actions, the leadership role expected of the federal government under P.L. 94-142, and assurance of equitable treatment among states.

Any assessment of federal funding, however, must go beyond the specific funding formula employed and consider the rules and restrictions concerning its use. In fact, the greatest potential fiscal impact of P.L. 94-142 lies not in the funding formula itself but in the associated federal regulations. In the view of a recent analysis, the requirements for a "free appropriate public education," while currently not closely defined or standardized by the federal government, present the possibility for extensive federal control over local education agency program practices and budget decisions. This is particularly true if future regulations quantify total spending or resource input requirements on a per student basis.[20] Already the federal regulations concerning due process and individual educational programs have caused many changes in state and school district procedures. The emphasis on services to be provided to handicapped children, rather than on tracking federal funds, may lead to a substantially changed relationship between the federal government and the states and school districts in special education, one in which

> . . . the federal government will supply a certain

> amount of funding if the state and localities in return undertake to provide certain services to members of the target group . . . . A shift in emphasis from the federal funds themselves to the services that state and local agencies have undertaken to provide may make the commitments more enforceable and may contribute to more concrete understandings about the behavior that is expected in return for federal aid.[21]

VII. CONCLUSIONS

The earlier discussion of the effects of the various funding formulas was derived primarily from a review of available literature and state practices, along with a deductive appraisal of their likely impacts. While the conclusions appear logical, they are not generally based on research findings. To verify the expected effects of funding formulas it would be necessary to conduct a comparative study across states which utilize different formulas. Such a study would attempt to determine if the different funding formulas do influence such aspects as number and type of children classified as handicapped, type of programs and services provided, duration of time in special education, class size or caseloads, record keeping and reporting burden, program and fiscal planning, and administration of special education funding. However, the regulations and guidelines associated with the formulas which require certain actions and constrain others, offer incentives and disincentives for various activities, encourage state or federal priorities, and prevent fiscal abuses are often more important in determining district's responses than the specific formula itself. Further, the history of special education in a given state or district, the relationships among the executive and legislative branches, the educational agencies and the special education

interest groups, and other idiocyncratic state factors may also be important determinants of special education policies and practices found in a given state. Therefore, care should be taken in any field investigation of the impact of funding formulas to consider all of the important contributing elements and to attempt to sort out their various influences. Otherwise to attribute the full effect of a state practice (e.g., relatively high percentage of school age population enrolled in special education) to a single element (e.g., a specific funding formula) may well be an erroneous conclusion.

In summary, then, special education is and will continue to be of significant interest to educational policy makers, planners, and administrators. As the magnitude of resources requested for the education of handicapped children increases, so will the need and demand for reliable information concerning the costs and funding of such programs. This paper has proposed that two aspects relevant to policy decisions in special education funding should be explicitly considered: the relationships between the content of the special education programs and services and their costs; and the programmatic and management incentives and disincentives of the funding approaches. Using this framework, a more comprehensive and functional approach to decision making for funding programs for handicapped children can evolve.

NOTES

1. Charles D. Bernstein, et al., Financing Educational Services for the Handicapped: An Analysis of Current Research and Practices (Reston, VA: Council for Exceptional Children, 1976) provides an example of an analytical framework emphasizing this relationship. A similar scheme is found in James S. Kakalik, "Issues in the Cost and Finance of Special Education," in Review of Research in Education, Vol 7 (Washington, D.C.: American Educational Research Association, 1979).

2. For a comprehensive list of related services for handicapped children, see Peggy L. Hartman, et al., Special Education Planning Model: User Guide (Palo Alto, CA: Management Analysis Center, 1978).

3. Bernstein, et al., Financing Educational Services, p. 25.

4. Ibid., pp. 27-8.

5. M. A. Thomas, "Finance: Without Which There Is No Special Education," Exception Children 39 (March 1973): 475-80.

6. Kakalik, "Issues in the Cost and Finance of Special Education."

7. William T. Hartman, Estimating the Costs of Educating Handicapped Children: A Resource-Cost Model Approach (Washington, D. C.: U.S. Office of Education, Bureau of Education for the Handicapped, 1979), pp. 270-71.

8. For a thorough discussion of the pros and cons of categorization of handicapped children, see Nicholas Hobbs, gen. ed., Issues in the Classification of Children, Vol. II (San Francisco, Jossey-Bass, 1975), pp. 39-52.

9. California State Department of Education, California Master Plan for Special Education (Sacramento, CA: California State Department of Education, 1972), pp. 36-39.

10. The following discussion on the incentives and disincentives of special education funding formulas is drawn largely from three sources: Bernstein, et al., Financing Educational Services, pp. 25-29; Kakalik, "Issues in the Cost and Finance of Special Education"; and Thomas, "Finance: Without Which There Is No Special Education," pp. 476-78.

11. Thomas, "Finance: Without Which There Is No Special Education," pp. 476-77.

12. Governor's Citizens' Committee on Education, Improving Education in Florida (Tallahassee, FL: Governor's Citizens' Committee on Education, 1973), pp. 114-18.

13. Insight: The Council for Exceptional Children Government Report, Vol. 10, No. 3 (March 26, 1979), p. 1

14. The nine percent federal share of special education costs was estimated by Hartman, Estimating the Costs of Educating Handicapped Children, p. 96, while the fourteen percent federal share was reported by William H. Wilken and David O. Porter, State Aid for Special Education: Who Benefits? (Washington, D. C.: National Foundation for the Improvement of Education, 1976), p. I-3 and Table I-8.

15. Calculated from national summary data of special education appropriations and students prepared by the Bureau of Education for the Handicapped, U.S. Office of Education for the purposes of P.L. 94-142.

16. Progress Toward a Free Appropriate Public Education (Washington, D.C.: Bureau of Education for the Handicapped, U. S. Office of Education, January 1979), p. 162.

17. This was the case in Vermont where forms utilized for the federally required child count included descriptions of handicapping categories which had not been previously used in identifying or reporting handicapped students in the state.

18. An example of the calculation procedures necessary for a district to determine and document its excess cost expenditures is provided in U.S. Department of Health, Education, and Welfare, "Education of Handicapped Children," pp. 42484-85.

19. Jay G. Chambers, "Educational Cost Differentials and the Allocation of State and for Elementary/Secondary Education," The Journal of Human Resources XIII, 4: 459-81.

20. Steven M. Barro, "Federal Education Goals and Policy Instruments: An Assessment of the 'Strings' Attached to Categorical Grants in Education," in The Federal Interest in Financing Schooling, ed. Michael Timpane (Cambridge, MA: Ballinger, 1978), pp. 260-66.

21. Ibid., p. 266.